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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/805,239 | 03/22/2004 | Takahiro Ikeno | 119196 | 9037 |

25944 7590 12/21/2007

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| EXAMINER | |
|---|---|
| STOREY, WILLIAM C | |
| ART UNIT | PAPER NUMBER |
| 4115 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 12/21/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/805,239 | IKENO ET AL. | |
| | Examiner | Art Unit | |
| | WILLIAM C. STOREY | 4115 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *22 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/19/2006, 9/6/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Specification*

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: In claim 10, "synchronization with said clock pulse signal" should read "synchronization with a clock pulse signal."

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: In claim 13, "said image resolution value" should read "an image resolution value."

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: In claim 14 & 16, "said control portion" should be "a control portion."

### *Claim Objections*

4. A series of singular dependent claims is permissible in which a dependent claim refers to a preceding claim which, in turn, refers to another preceding claim.

A claim which depends from a dependent claim should not be separated by any claim which does not also depend from said dependent claim. It should be kept in mind that a dependent claim may refer to any preceding independent claim. In general, applicant's sequence will not be changed. See MPEP § 608.01(n).

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-7, 9-20, 22, 24-27, & 29-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Saika.

Regarding claim 1, Saika discloses an image sensor comprising: a plurality of photoelectric converter elements each operable to convert an optical signal into an electric signal (¶ 24 & 26, figure 2 & 3. Saika discloses a sensor chip and representative pixels in electric circuitry.); a plurality of channel selector switches which correspond to said photoelectric converter elements and which are selectively turned on and off to selectively connect and disconnect output portions of the corresponding photoelectric converter elements to and from a common signal line (¶ 24, 26, 27), in synchronization with a clock pulse signal (figure 2, ¶ 27 & 30); and a resolution setting portion operable to receive a resolution setting timing signal, a first resolution setting signal and a second resolution setting signal, and to select one of a plurality of on-off control patterns of said plurality of channel selector switches, on the basis of on-off states of the first and second resolution setting signals upon at least one of rising and falling of said resolution setting timing signal said plurality of channel selector switches

being selectively turned on and off in the selected on-off control pattern, to set an image resolution value of the image sensor (¶ 32 & 33).

Regarding claim 2, Saika discloses everything as applied above for claim 1. In addition, Saika discloses the image sensor, according to claim 1, further comprising a shift register circuit operable to selectively turn on and off said plurality of channel selector switches in the on-off control pattern selected by said resolution setting portion (¶ 24), and wherein said resolution setting portion receives said resolution setting timing signal and said first and second resolution setting signals from an external device (Figure 2 shows an input for a clock signal; therefore, the clock signal must come into the circuit from an external source.), said resolution setting timing signal and said first and second resolution setting signals being selected from a group consisting of a control signal for setting said image resolution value, a start signal for starting said shift register circuit, and said clock pulse signal (figure 2, ¶ 27, 32, & 33. Saika discloses the resolution being selected by how the clock pulse operates.).

Regarding claim 3, Saika discloses everything as applied above for claim 2. In addition, Saika discloses the image sensor according to claim 2, wherein said resolution setting timing signal is one of said control signal and said clock pulse signal (figure 2, ¶ 27, 32, & 33. Saika discloses the resolution being selected by how the clock pulse operates.), and said resolution setting portion prevents said start signal from starting said shift register circuit for a predetermined length of time after a moment of said the rising or falling of said resolution setting timing signal (¶ 32. The timings of the clock prevent the starting of flip-flops in the shift register circuit.).

Regarding claim 4, Saika discloses everything as applied above for claim 1. In addition, Saika discloses the image sensor according to claim 1, wherein said resolution setting portion is operated to set said image resolution value before each line of image is read by operation of said plurality of photoelectric converter elements and said plurality of channel selector switches (¶ 27 discloses that a start signal and a clock signal are both necessary for the selection of pixels as disclosed in ¶ 26. ¶ 30 & 32 disclose that the resolution of the scan is set by the clock signal. Therefore, in order for any scan to operate, and thus, for the image to be read, it is necessary for a clock signal to be input, and inherently, a resolution to be dictated.)

Regarding claim 5, Saika discloses everything as applied above for claim 1. In addition, Saika discloses the image sensor according to claim 1, wherein said resolution setting portion is operated to set said image resolution value before each page of image is read by operation of said plurality of photoelectric converter elements and said plurality of channel selector switches (¶ 27 discloses that a start signal and a clock signal are both necessary for the selection of pixels as disclosed in ¶ 26. ¶ 30 & 32 disclose that the resolution of the scan is set by the clock signal. Therefore, in order for any scan to operate, and thus, for the image to be read, it is necessary for a clock signal to be input, and inherently, a resolution to be dictated.)

Regarding claim 6, Saika discloses everything as applied above for claim 2. In addition, Saika discloses the image sensor according to claim 2, wherein said shift register circuit is operable to simultaneously turn on a plurality of adjacent switches of said plurality of channel selector switches, when said image resolution value set by said

resolution setting portion is other than a highest one of a plurality of image resolution values available by an operation of said resolution setting portion, the number of said adjacent switches varying depending upon the image resolution value set by said resolution setting portion (Saika discloses thinning out the reading when a resolution of setting other than the highest is selected (¶ 32, 33). Usually, this is interpreted to make the switched go to an "off" state; however, whether the state is determined to be called “off” or “on” does not alter the patentability of claim 6. The relative fluctuation as consequence of not being in a state of highest resolution is taught. In addition, it is well known to use an inverter to switch a state from “on” to an “off". The thinning out could be performed in blocks or alternate form (¶ 36). Saika discloses that the timing of the clock signal may be set to have any of the switches on or off (¶ 32 & 36).)

Regarding claim 7, Saika discloses everything as applied above for claim 1. In addition, Saika discloses the image sensor according to claim 1, wherein the electric signals generated as image signals by the electric signals generated by said plurality of photoelectric converter elements are accompanied by an image resolution signal indicative of the image resolution value set by said resolution setting portion (¶ 43 discloses having values set to resolution signals. The output of the pixels is dictated by the resolution signals (¶ 32).)

Regarding claim 9, Saika discloses an image sensor comprising: a plurality of photoelectric converter elements each operable to convert an optical signal into an electric signal (¶ 24 & 26, figure 2 & 3. Saika discloses a sensor chip and representative pixels in electric circuitry.); a plurality of channel selector switches which

correspond to said photoelectric converter elements and which are selectively turned on and off to selectively connect and disconnect output portions of the corresponding photoelectric converter elements to and from a common signal line (¶ 24, 26, 27), in synchronization with a clock pulse signal (figure 2, ¶ 27 & 30); and a resolution setting portion operable to receive a first resolution setting signal and a second resolution setting signal, before said plurality of channel selector switches are selectively turned on to connect said output portions of the corresponding photoelectric converter elements to said common signal line, said resolution setting portion being operable to select one of a plurality of on-off control patterns of said plurality of channel selector switches, on the basis of on-off states of said first and second resolution setting signals, said plurality of channel selector switches being selectively turned on and off in the selected on-off control pattern, to set an image resolution value of the image sensor (¶ 32 & 33).

Regarding claim 10, Saika discloses an image sensor comprising: a plurality of photoelectric converter elements each operable to convert an optical signal into an electric signal (¶ 24 & 26, figure 2 & 3. Saika discloses a sensor chip and representative pixels in electric circuitry.); a plurality of channel selector switches which correspond to said photoelectric converter elements and which are selectively turned on and off to selectively connect and disconnect output portions of the corresponding photoelectric converter elements to and from a common signal line (¶ 24, 26, 27), in synchronization with a clock pulse signal (figure 2, ¶ 27 & 30); a shift register circuit operable to selectively turn on and off said plurality of channel selector switches (¶ 24); and a resolution setting portion operable to receive a first resolution setting signal and a

second resolution setting signal, and to select one of a plurality of on-off control patterns of said plurality of channel selector switches, on the basis of on-off states of said first and second resolution setting signals, said plurality of channel selector switches being selectively turned on and off in the selected on-off control pattern, to set an image resolution value of the image sensor (¶ 32 & 33), wherein said shift register circuit is operable to simultaneously turn on a plurality of adjacent switches of said plurality of channel selector switches, when said image resolution value set by said resolution setting portion is other than a highest one of a plurality of image resolution values available by an operation of said resolution setting portion, the number of said adjacent switches varying depending upon the image resolution value set by said resolution setting portion (Saika discloses thinning out the reading when a resolution of setting other than the highest is selected (¶ 32, 33). Usually, this is interpreted to make the switched go to an "off" state; however, whether the state is determined to be called “off” or “on” does not alter the patentability of claim 6. The relative fluctuation as consequence of not being in a state of highest resolution is taught. In addition, it is well known to use an inverter to switch a state from “on” to an “off". The thinning out could be performed in blocks or alternate form (¶ 36). Saika discloses that the timing of the clock signal may be set to have any of the switches on or off (¶ 32 & 36).)

Regarding claim 11, Saika discloses everything as applied above for claim 10. Saika discloses the image sensor according to claim 10, wherein said shift register circuit (23) is operable to turn on successive groups of the channel selector switches each group consisting of said plurality of adjacent switches, in synchronization with

respective successive pulses of said clock pulse signal, when the image resolution value set by said resolution setting portion (31) is other than the highest value. (Saika discloses thinning out the reading when a resolution of setting other than the highest is selected (¶ 32, 33). Higher values are usually assigned to higher resolution (¶ 43). Usually, this is interpreted to make the switched go to an "off" state; however, whether the state is determined to be called “off” or “on” does not alter the patentability of claim 6. The relative fluctuation as consequence of not being in a state of highest resolution is taught. In addition, it is well known to use an inverter to switch a state from “on” to an “off". The thinning out could be performed in blocks or alternate form (¶ 36). Saika discloses that the timing of the clock signal may be set to have any of the switches on or off (¶ 32 & 36). Saika discloses that by the timing of the clock pulse chosen switches could be turned on or off (¶ 30). This reads on the current claim.)

Regarding claim 12, Saika discloses everything as applied above for claim 1. In addition, Saika discloses an image reading device comprising: an image sensor as defined in claim 1; a resolution-setting-timing-signal generating portion operable to generate said resolution setting timing signal; a first resolution-setting-signal generating portion operable to generate said first resolution setting signal; a second resolution-setting-signal generating portion operable to generate said second resolution setting signal; and a control portion operable to control said resolution-setting-timing-signal generating portion and said first and second resolution-setting-signal generating portions (¶ 32, 33, 35, & above).

Regarding claim 13, Saika discloses everything as applied above for claim 12. In addition, Saika discloses said image sensor further comprises a shift register circuit operable to selectively turn on and off said plurality of channel selector switches in the on-off control pattern selected by said resolution setting portion (¶ 24), and wherein said resolution setting timing signal and said first and second resolution setting signals which are respectively generated by said resolution-setting-timing-signal generating portion and said first and second resolution-setting-signal generating portions are selected from a group consisting of a control signal for setting said image resolution value, a start signal for starting said shift register circuit, and said clock pulse signal (figure 2, ¶ 27, 32, 33, 43, & above. Saika discloses the resolution being selected by how the clock pulse operates.).

Regarding claim 14, Saika discloses everything as applied above for claim 13. In addition, Saika discloses said resolution-setting-timing-signal generating portion and said first and second resolution-setting-signal generating portions generate said control signal, said start signal and said clock pulse signal, respectively, and said control portion controls the on-off states of said start signal and said clock pulse signal upon at least one of rising and falling of said control signal. (¶ 24, 27, 32, 33, 35, & figure 2. Saika discloses the timing signal acting as a resolution-setting-timing-signal, a first and second resolution-setting-signal, a control signal for controlling the setting of switches, a start signal that is necessary for the shift register to work, and a clock pulse. Generating clock pulses that do everything just mentioned reads on claimed control

portion controls the on-off states of said start signal and said clock pulse signal upon at least one of rising and falling of said control signal and thus, the whole claim.)

Regarding claim 15, Saika discloses everything as applied above for claim 13. In addition, Saika discloses the image reading device according to claim 13, wherein said resolution setting timing signal is one of said control signal and said clock pulse signal (figure 2, ¶ 27, 32, & 33. Saika discloses the resolution being selected by how the clock pulse operates.), and said shift register circuit is not started by said start signal for a predetermined length of time after a moment of said the rising or falling of said resolution setting timing signal (¶ 32. The timings of the clock prevent the starting of flip-flops in the shift register circuit.).

Regarding claim 16, Saika discloses everything as applied above for claim 13. In addition, Saika discloses the image reading device according to claim 13, wherein said resolution-setting-timing-signal generating portion generates one of said control signal and said clock pulse signal, as said resolution setting timing signal, and a control portion controls one of said resolution-setting-timing-signal generating portion and said first and second resolution-setting-signal generating portions to generate said start signal again, to start said shift register circuit, after said image resolution value is set by said resolution setting portion (¶ 24, 27, 30, 32, 33, 35, 43, above, figure 2. Saika discloses the resolution setting being described in a timing signal, which is a clock pulse signal, and which controls switching. Once the values are set, the clock pulse signal contains a start signal required for the shift register.)

Regarding claim 17, Saika discloses everything as applied above for claim 12. Claim 17 is rejected based upon the same reasoning as applied for claim 4.

Regarding claim 18, Saika discloses everything as applied above for claim 12. Claim 18 is rejected based upon the same reasoning as applied for claim 5.

Regarding claim 19, Saika discloses everything as applied above for claim 12. Claim 19 is rejected based upon the same reasoning as applied for claim 6.

Regarding claim 20, Saika discloses everything as applied above for claim 19. Saika discloses the image reading device according to claim 19, wherein said shift register circuit is operable to turn on successive groups of the channel selector switches each group consisting of said plurality of adjacent switches, in synchronization with respective successive pulses of said clock pulse signal, when the image resolution value set by said resolution setting portion is other than the highest value. (Saika discloses thinning out the reading when a resolution of setting other than the highest is selected (¶ 32, 33). Higher values are usually assigned to higher resolution (¶ 43). Usually, this is interpreted to make the switched go to an "off" state; however, whether the state is determined to be called “off” or “on” does not alter the patentability of claim 6. The relative fluctuation as consequence of not being in a state of highest resolution is taught. In addition, it is well known to use an inverter to switch a state from “on” to an “off". The thinning out could be performed in blocks or alternate form (¶ 36). Saika discloses that the timing of the clock signal may be set to have any of the switches on or off (¶ 32 & 36). Saika discloses that by the timing of the clock pulse chosen switches could be turned on or off (¶ 30). This reads on the current claim.)

Regarding claim 22, Saika discloses everything as applied above for claim 12. Saika discloses the image reading device according to claim 12, wherein image signals generated by the electric signals generated by said plurality of photoelectric converter elements are followed by an image resolution signal indicative of the image resolution value set by said resolution setting portion. (Saika has disclosed above respective resolution signals being sent to select switches to be on or off that allow the signals that are read to be outputted. The resolution must be output in a signal in order for the pixels to be output. Thus, when a resolution signal will be input as a clock signal for numerous scans, it will certainly "follow" image signals generated by the electric signals generated by said plurality of photoelectric converter elements (see above, ¶ 24, 27, 43.))

Regarding claim 24, Saika discloses everything as applied above for claim 12. Saika discloses the image reading device according to claim 12, wherein said resolution-setting-timing-signal generating portion is operable to change a moment of rising or falling of said resolution setting timing signal, depending upon said image resolution value to be set by said resolution setting portion, while said first and second resolution-setting-signal generating portion is operable to generate said first and second resolution setting signals such that a pulse of each of said first and second resolution setting signals rises and falls at respective predetermined fixed first and second moments relative to said moment of rising or falling of said resolution setting timing signal (¶ 30, 31, 32, 33, 34, 35, 42, 45, figure 4.)

Regarding claim 25, Saika discloses everything as applied above for claim 12. Saika discloses the image reading device according to claim 12, wherein said first and second resolution-setting-timing-signal generating portions are operable to change a moment of at least one of rising and falling of each of said first and second resolution setting signals, depending upon said image resolution value to be set by said resolution setting portion, while said resolution-setting-timing-signal generating portion is operable to generate said resolution setting timing signal such that a pulse of said resolution setting timing signal rises and falls at respective predetermined fixed moments (¶ 30, 31, 32, 33, 34, 35, 42, 45, figure 4.)

Regarding claim 26, Saika discloses everything as applied above for claim 25. Saika discloses the image reading device according to claim 25, wherein said first and second resolution-setting-signal generating portions are operable to change the moment of falling of each of said first and second resolution setting signals relative to the moment of falling of said resolution setting timing signal (¶ 30, 31, 32, 33, 34, 35, 42, 45, figure 4.)

Regarding claim 27, Saika discloses everything as applied above for claim 25. Saika discloses the image reading device according to claim 25, wherein said first and second resolution-setting-signal generating portions are operable to change the moments of rising and falling of each of said first and second resolution setting signals relative to the moments of rising and falling of said resolution setting timing signal (¶ 30, 31, 32, 33, 34, 35, 42, 45, figure 4.)

Regarding claim 29, Saika discloses Saika discloses an image sensor comprising: a plurality of photoelectric converter elements each operable to convert an optical signal into an electric signal (¶ 24 & 26, figure 2 & 3. Saika discloses a sensor chip and representative pixels in electric circuitry.). It is inherent that Saika's invention disclose a signal generating portion operable to generate a start signal and a clock pulse signal, for the purpose of his invention working as he describes (¶ 27, figure 2). Saika also discloses a plurality of channel selector switches which correspond to said photoelectric converter elements and which are selectively turned on and off to selectively connect and disconnect output portions of the corresponding photoelectric converter elements to and from a common signal line (¶ 24, 26, 27), in synchronization with a clock pulse signal (figure 2, ¶ 27 & 30); a shift register circuit operable to selectively turn on and off said plurality of channel selector switches, said shift register circuit being started by said start signal (¶ 24, 27); and a resolution setting portion operable to receive a first resolution setting signal and a second resolution setting signal, and to select one of a plurality of on-off control patterns of said plurality of channel selector switches, on the basis of on-off states of said first and second resolution setting signals, said plurality of channel selector switches being selectively turned on and off in the selected on-off control pattern, to set an image resolution value of the image sensor (¶ 24, 27,32, & 33. Shift register circuit reads on claimed resolution setting portion.)

Regarding claim 30, Saika discloses a method of setting an image resolution of an image sensor comprising a plurality of photoelectric converter elements each

operable to convert an optical signal into an electric signal (¶ 24 & 26, figure 2 & 3. Saika discloses a sensor chip and representative pixels in electric circuitry.), and a plurality of channel selector switches which correspond to said photoelectric converter elements and which are selectively turned on and off to selectively connect and disconnect output portions of the corresponding photoelectric converter elements to and from a common signal line (¶ 24, 26, 27), in synchronization with a clock pulse signal (figure 2, ¶ 27 & 30), said method comprising the steps of: generating a resolution setting timing signal, a first resolution setting signal and a second resolution setting signal (¶ 30, 32, 33, 35); and selecting one of a plurality of on-off control patterns of said plurality of channel selector switches, on the basis of on-off states of the first and second resolution setting signals upon at least one of rising and falling of said resolution setting timing signal, said plurality of channel selector switches being selectively turned on and off in the selected on-off control pattern, to set an image resolution value of the image sensor (¶ 30, 32, 33, 35).

Regarding claim 31, Saika disclosed everything as applied above for claim 30. In addition, claim 31 is rejected upon similar reasoning applied in claim 2.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claim 8, 21, 23, 28, & 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saika in view of well known prior art (MPEP 2144.03).

Regarding claim 8, Saika discloses everything claimed, as applied above (see claim 1); however, Saika fails to disclose image sensor according to claim 1, wherein the number of said plurality of on-off control patterns of said plurality of channel selector switches is equal to a multiple of four, and said plurality of on-off control patterns correspond to respective different values of the image resolution of the image sensor. However, the examiner takes official notice of the fact that it was well known in the art to provide image sensor according to claim 1, wherein the number of said plurality of on-off control patterns of said plurality of channel selector switches is equal to a multiple of four, and said plurality of on-off control patterns correspond to respective different values of the image resolution of the image sensor.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saika by specifically providing image sensor according to claim 1, wherein the number of said plurality of on-off control patterns of said plurality of channel selector switches is equal to a multiple of four, and said plurality of on-off control patterns correspond to respective different values of the image

resolution of the image sensor, because Saika discloses the idea of having numerous resolution settings, the ability to set chosen pixels to send image data or not, and a specific number or multiple of resolution patterns does not make the claimed invention patentably distinct from the teachings of the prior art.

Regarding claim 21, Saika discloses everything as applied above for claim 20. Saika discloses the image reading device according to claim 20, further comprising a feeding device operable to move a row of said photoelectric converter elements and an original carrying an image, relative to each other in a direction perpendicular to a direction of extension of said row (Figure 11, ¶ 47); however, Saika fails to disclose at a speed which increases with an increase in the number of said plurality of adjacent switches. However, the examiner takes official notice of the fact that it was well known in the art to provide at a speed which increases with an increase in the number of said plurality of adjacent switches.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saika by specifically providing at a speed which increases with an increase in the number of said plurality of adjacent switches, for the purpose of efficiency.

(By the description of "said plurality of adjacent switches" given in claim 19, more switches are turned on when the resolution is not the highest. Thus, the output of a pixel is turned off when the switch is turned on. When the number of a plurality of adjacent switches is increased, the resolution will be getting increasingly lower. It is

well known in the art to provide a faster reading time at lower resolutions than at higher resolutions.)

Regarding claim 23, Saika discloses everything as applied above for claim 12. Claim 23 is rejected based upon the same reasoning as applied above for claim 8.

Regarding claim 28, Saika discloses everything as applied above for claim 25. In addition, Saika discloses the image reading device according to claim 25, wherein said first and second resolution-setting-signal generating portions are operable to change the moments of rising and falling of each of said first and second resolution setting signals relative to moments of falling of two successive pulses of said resolution setting timing signal (Figure 6, figure 7, ¶ 34. Saika discloses the circuit of figure 6 producing the outputs shown based in figure 7. Refclk would read on claimed resolution setting timing signal, and clk1 and clk2 read on the first and second resolution setting signals. The circuit shows that the outputs are based on a continuous input clock pulse and a feedback circuit, therefore reading on change the moments of rising and falling … relative to moments of two successive pulses of said resolution timing signal. However, Saika fails to specifically disclose the moments of the outputs being relative to the moments of falling of the input. However, the examiner takes official notice of the fact that it was well known in the art to provide the moments of the outputs being relative to the moments of falling of the input.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saika by specifically providing the moments of the outputs being relative to the moments of falling of the input, because it is well known

by those skilled in the art for a flip-flop to be able to create the output on the falling or the rising of the input clock signal.

Regarding claim 32, Saika discloses everything as applied above for claim 30. Claim 32 is rejected based upon the same reasoning as applied above for claim 8.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kozuka (US 6473538) discloses an image sensor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM C. STOREY whose telephone number is (571)270-3576. The examiner can normally be reached on Monday - Friday (Alternate Fridays off) 7:30-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jefferey F. Harold can be reached on 571-272-7519. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William C Storey/
Examiner, Art Unit 4115

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